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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,649	02/06/2002	Hideki Fujitugu	740145-221	4490

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EXAMINER

KALIVODA, CHRISTOPHER M

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,649

Applicant(s)

FUJITUGU, HIDEKI

Examiner

Christopher M. Kalivoda

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 02/16/2001. It is noted, however, that applicant has not filed a certified copy of the 2001-039621 application as required by 35 U.S.C. 119(b).

Specification

The disclosure is objected to because of the following informalities: The end of the sentence in line 3, paragraph 002 stops abruptly. Appropriate correction is required.

Claim Objections

Claim 2 is objected to because of the following informalities: The use of the term "transition" in the next to last line of this claim is unclear. For purposes of examination, the claim is understood to include a light screening means between the lamps. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuyoshi, et al. in view of applicant's admitted prior art. Regarding claims 1, 2, 5, and 6, Nobuyoshi, et al. teaches a substrate treatment device comprising:

- a. at least two dielectric barrier discharge lamps (see para 0001, line 3 and Figure 1);
- b. a substrate which is moved in relation to the at least two dielectric barrier discharge lamps thereby irradiating the surface of the substrate with UV light from the at least two dielectric barrier discharge lamps (see para 001, line 5).
- c. the barrier discharge lamps being arranged such that a first area of the substrate is irradiated by one dielectric barrier discharge lamp and a second area of the substrate is irradiated by another dielectric barrier discharge lamp, such that, during moving of the substrate, the first and second areas have an overlapping portion (see Figure 1). The lamps are close such that the light from each lamp overlaps.
- d. a light screening means for screening part of the UV light irradiated onto the overlapping portion (see Figure 1, ref sign 11).
- e. the dielectric barrier discharge lamps located in an essentially box-shaped unit with one side provided with a light transmission window (see Fig1, ref sign 20);

However, the reference is silent with respect to a length for each of the at least two dielectric barrier discharge lamps in the lengthwise direction is less than a width of the substrate in a direction perpendicular to its transport direction although the reference does indicate a lamp length of 250 mm (see para 0016, lines 3-8).

In the specification (para 007, line 3) the applicant indicates substrates are conventionally 680mm x 880mm and are getting larger.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the two dielectric barrier discharge lamp invention of Nobuyoshi, et al. in which the lengthwise direction of the lamps is less than a width of the substrate in a direction perpendicular to its transport direction.

The motivation for using this invention with the substrate is to perform dry cleaning of a silicon wafer (see para 001, line 5).

Regarding claims 3 and 4, Nobuyoshi, et al. in view of applicant's admitted prior art teach the limitations of claims 1 and 2 as described above. Furthermore, Nobuyoshi, et al. teaches the light screening means are arranged such that the amount of irradiation per unit area on the substrate becomes essentially uniform after transport treatment (see abstract, lines 1-7).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application 2001/0022499 to Inayoshi describes a

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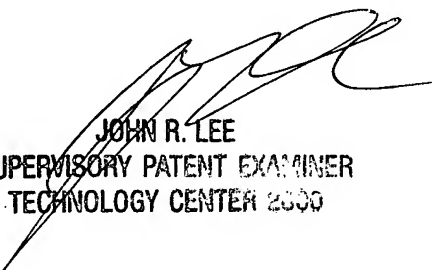
dielectric barrier discharge lamp system for treating substrates. However, this invention lacks the light screening means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Kalivoda whose telephone number is (703)-305-7443. The examiner can normally be reached on Monday - Friday (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (703)-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9318 for regular communications and (703)-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

cmk
May 30, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000